

REMARKS

Status of the Claims

By virtue of the Listing of Claims presented herein, which reflect the claims as amended in Applicant's previous response dated March 19, 2007, claims 124, 132-137, 139-143, 145-150, 155-159, and 163-174 remain pending.

Claim Objections

The Examiner objects to claims 136, 137, 150, and 174 on the grounds that they allegedly should begin with "The method of claim..." The Examiner offers no basis in the way of evidence or relevant references in the art to justify the imposition of the required amendment, or offered any other basis to assert any alleged impropriety in the current claim language of the objected-to claims. Indeed, the objected-to preamble, "A method according to claim..." is well-established as acceptable preamble language for the purposes of maintaining or reciting dependency of a dependent method claim from another dependent method claim. The objection is therefore traversed.

The Examiner objects to claims 145-149 and 155-159 on the grounds that they do not clearly set forth that the mammal exhibits a decrease in body weight or that the therapeutic effect is decrease in body weight. The claims are directed to methods of expressing the recited vectors; as such, there exists no requirement per se that a decrease in body weight be achieved in a mammal in which such vectors are expressed. The objection is improper insofar as the Examiner is attempting to limit Applicant's claims to a scope that is less than that which Applicant is entitled by virtue of Applicant's disclosure. Applicant is entitled to claim his invention in accordance with his disclosure. Furthermore, the Examiner offers no basis in the way of evidence or relevant references in the art that justify the imposition of the required amendment. Therefore, Applicant traverses the objection.

Claim Rejections

All arguments in all previous responses of record in the instant case, whether expressly indicated as such below or not, are hereby incorporated by reference and reapplied to the rejections set forth in the instant Office Action.

Rejection under 35 U.S.C. § 112, first paragraph: Enablement

Claims 124, 132-137, 139-143, 145-149, 155-159, and 163-173 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Examiner's arguments in support of his continued rejection for alleged lack of enablement are, with little exception, essentially identical to that provided in previous Office Action(s). In particular, the Examiner continues to emphasize targeting of the claimed vectors to a particular tissue or cell type as the cornerstone of his rejection:

Rejection

Overall, the specification does not overcome the unpredictability in the art by teaching the specific combination of vector, promoter, dosage, and route of administration required to target ob expression to fat cell or how to express ob protein so it will target the tissue that mediates a reduction in body weight. (Instant Office Action, Page 9, fifth complete paragraph)

The Examiner continues to attempt to support this view by again citing Tartaglia et al., as allegedly establishing that "the tissue in which the ob protein mediated an effect was unknown at the time of filing [of the instant application] and pointed out that the specification does not overcome this obstacle." (Instant Office Action, page 14, lines 14-17). As Applicant has pointed out in previous response(s), targeting the claimed vectors to a particular tissue or cell type is not a limitation found in the instant claims, and is not a requirement, and indeed, is not relevant, for practicing the claimed methods, and is not a limitation in the instant claims. In this regard, and as pointed out in previous response(s), the instant application teaches that the ob gene product is "a circulating factor, such as a hormone" that is "secreted by cells that express it" (see e.g., page 25, line 24, through page 26, line 7); as such, ectopic expression by OB-encoding adenoviral-transfected cells of such a OB circulating factor reasonably achieves the same result as ob gene product secreted by a "native expressing tissue." This teaching is supported further in the Examples of the instant application, which demonstrate that administration of OB protein by injection (i.e., into the circulation of the test animal, such that is a "circulating factor"), without

considerations such as OB tissue origin or OB target tissue, achieves a therapeutic effect of a decrease in body weight (see, e.g., page 5, line 10-14; page 125, line 26 through page 126, line 2; and page 126, Table I). Thus, not only is targeting of a particular OB-sensitive or OB “native expressing” tissue not a claimed element, it is not an essential feature in practicing the methods as claimed in order to achieve the therapeutic effect recited in the instant claims. The Examiner has failed to demonstrate, at any time throughout prosecution of the instant case, any evidentiary basis to refute the veracity of this teaching.

In this regard, and as has been pointed out in Applicant’s previous response(s), it is notable that the Examiner’s own characterization of references of record that are relevant to claimed methods, supports rather than negates, Applicant’s argument that tissue or cell type targeting was not an essential feature of the claims at the time of the effective filing date, and therefore is irrelevant with respect to enablement of the instant claims. Furthermore, as Applicant discussed in previous response(s), as illustrated by the Examiner’s synopsis of each of the Fletcher et al. (1995), Morsy et al. (1998), and Muzzin et al. (1996) references, these references also collectively demonstrate that, in fact, selection of a any of several particular combination of delivery, dosage, administration, etc. parameters may have been selected as taught in the instant application in order to achieve an effect as instantly claimed methods. Again, this negates the Examiner’s assertion of lack of enablement based on the alleged teachings of these references.

Additionally in this regard, and in response to the Examiner’s advisement that certain references (i.e., Chen (1996), Murphy (1997), Buettner (2000), Dube (2002), and Larcher (2001) were not available at the time of filing of the instant application and therefore cannot be relied upon for enablement (Instant Office Action, page 12, lines 9-10), Applicant notes emphatically that Applicant’s comments with respect to such references do not constitute a reliance on such references to supply alleged enablement deficiencies with respect to the instant claims. Rather, Applicant’s comments demonstrate that no such alleged deficiencies exist, and that, if anything, such references confirm that the limitations recited in the claims were, in fact, enabled at the time of the effective filing date of the instant application, insofar as the essential elements of the methods practiced by the authors of such references were taught and fully enabled as provided in Applicant’s disclosure and as instantly claimed.

Again, as in previous Action(s), the Examiner reflexively turns to Feldman et al. (1995) Miller et al. (1995), Crystal et al. (1995), Verma et al. (1997), Deonarian et al. (1998), and Ross et al. (1996), in an effort to support his allegation, which, as Applicant has stated in previous response(s), are not germane to the instant claims: none of the references bear on methods of decreasing body weight, or for treating obesity, in a mammal by administration to the mammal an adenoviral vector or an adeno-associated vector comprising a nucleic acid sequence encoding an OB polypeptide according to the recitations of the claims in a therapeutically effective amount such that the mammal exhibits a decrease in body weight; methods of delivering DNA encoding such OB polypeptides; or methods of expressing such OB polypeptides from such vectors. As stated in previous response(s), the courts have long held that such generalizations are not sufficient to support a finding of non-enablement. Further, the issue of enablement, particularly undue experimentation, must be decided on the facts of the case (see, e.g., *Ex Parte Goeddel*, 5 U.S.P.Q.2d 1449, 1450 (Bd. Pt. App. & Int. 1985), and *Parte Kung*, 17 U.S.P.Q.2d 1545, 1546 (Bd. Pt. App. & Int. 1989). Since none of these references bear on OB polypeptide-encoding vectors or their use in methods as instantly claimed, they are irrelevant with respect to case that is currently before the Examiner.

However, despite the non-essential nature of such parameters in practicing the claimed methods, as demonstrated by, for example, Fletcher et al. (1995), Morsy et al. (1998), and Muzzin et al. (1996), the Applicant's disclosure nonetheless provides ample guidance as to the selection of suitable combinations of such parameters which may be considered in order to practice the methods as instantly claimed, and provides reagents, and criteria, etc. by which such selections may be made. For instance, the instant Application provides numerous vectors and vector elements, including the recited adenovirus and adeno-associated virus vectors, promoter and other elements, as well as transfection reagents and methodologies (see, e.g., page 54, line 1-19; page 83, line 21, through page 85, line 10); determination and assessment of a therapeutically effective amount, e.g., by ascertaining observable endpoints, such as weight loss (see, e.g., page 72, line 5, to page 73, line 6). The references demonstrate that the claimed methods are fully enabled by the Applicant's disclosure, and that whereas ample guidance is provided in the instant application for the selection of conditions such as viral dosages/titers, routes of administration, target tissue, etc., no one particular chosen set of such conditions, is critical in order to achieve

the claimed therapeutic effect. Thus, the selection of such parameters, in light of the skill and knowledge of the skilled artisan and the guidance provided in the instant application, is not only fully enabled, but also routine.

Nonetheless, in a further repetition of the Examiner's previous attempts to further shore up the enablement rejection of the claimed methods, the Examiner claims that "the specification and art since the time of filing are limited to treating mammals with an ob deficiency", and that "the specification does not provide an enabled use for decreasing the body weight of a wild-type mammal (having normal weight)". As demonstrated in Applicant's previous response(s), this assertion remains incorrect. The instant application clearly discloses that "there was a small but significant following administration of the recombinant ob protein (Figure 28A-F, Table 1)" (see page 125, lines 26-27). This demonstration, in conjunction with the other portions of the specification to which the Examiner's attention was previously directed in previous response(s) (e.g., page 5, line 10-14; page 125, line 26 through page 126, line 2; and page 126, Table I). demonstrated a decrease in body weight is achieved in wild-type animals injected with an ob gene product, and also that human OB is active in mice (see, e.g., page 5, line 10-14; page 125, line 26 through page 126, line 2; and page 126, Table I). Thus, the Examiner's assertions remain incorrect.

Next, the Examiner echoes his previous allegations that because "certain claims encompass using any (emphasis added) analog of an ob protein that modulates body weight," and because "the specification defines analogs as ob proteins that agonize or antagonize the function of the ob protein," it would require one of ordinary skill in the art undue experimentation to determine antagonistic analogs of the ob protein or how to use vectors encoding ob proteins capable of increasing (emphasis added) body weight." This allegation is incorrect and moot for the reasons provided in Applicant's previous response(s), and insofar as, at least, as amended in Applicant's previous response(s), the instant claims are directed to methods of decreasing (and not increasing) body weight in mammals administered the recited OB-encoding vectors. Thus, it is clear that the instant claims do not read on a genus of vectors that encode ob polypeptide antagonists or ob polypeptides that otherwise cause an increase in body weight.

The Examiner again asserts that "the specification does not define what [it] considers 'conservative' and 'non-conservative' substitutions." Again, the instant claims are directed to,

for example, substitution at one or more recited positions, and do not include any recitation to “conservative” or “non-conservative” substitutions. Thus, the Examiner’s rejection on the grounds that these terms are not defined is moot on this basis alone. However, even assuming *arguendo* that such definitions are relevant to enabling the instant claims, Applicants submit that the meaning of such terms in the context of the relevant art were well established and recognized at the time of the priority date of the instant application, such that the skilled artisan would construe their meaning in the context of the substitutions recited in the instant claims as clear and fully enabled.

The Examiner next repeats assertions concerning targeting human fat cells and the allegation that “[t]his is the only route of administration contemplated in the specification” is simply false on its face, for the reasons provided above, as well as by virtue of the fact, at least, that the specification does not expressly or implicitly disclose that targeting of fat cells is the only administration modality by which the instantly claimed methods may be practiced; the cited portion states the “the ob gene could be introduced into human fat cells to develop gene therapy for obesity.” This statement does not negate any other targeting modality, including, to specific targeting of any tissue or cell type at all, as described above, in order to practice the claimed methods. This is further supported by Applicant’s comments above. Furthermore, it is well established that an Applicant’s claims to a disclosed invention is not bound by any suggested theory or mechanism for the inventions operation, even if such suggested theory is ultimately found to be incorrect.

In this regard, as provided in previous response(s), the Examples in the instant application demonstrate that administration of OB protein by injection (i.e., into the circulation of the test animal), without consideration of OB tissue origin or OB target tissue achieves a therapeutic effect of a decrease in body weight (see, e.g., page 5, line 10-14; page 125, line 26 through page 126, line 2; and page 126, Table I), thus further supporting that targeting of a particular OB-sensitive or OB “native expressing” tissue, it is not an essential feature in practicing the methods as claimed in order to achieve the recited therapeutic effect.

For the foregoing reasons, as well as those provided in previous responses, the rejection of the claims under 35 U.S.C. § 112, first paragraph, for alleged lack of enablement is without merit and should be withdrawn.

Rejection under 35 U.S.C. § 112, first paragraph: written description

The Examiner repeats the rejection of claims 124, 132-135, 139-143, 145-149, 155-159, and 163-173 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the Examiner again asserts that the phrase “operatively linked to a promoter” constitutes new matter. This continued rejection is traversed, as in previous response(s). Again, page 51, lines 1 through 3 states that “Transcriptional and translational control sequences are DNA regulatory sequences, such as promoter, enhancers, terminators and the like, that provide for the expression of a coding sequence in a host cell.” Page 51, lines 5 through 8, states that “A coding sequence is ‘under the control’ of transcriptional and translational control sequences in a cell when RNA polymerase transcribes the coding sequence into mRNA, which is then trans-RNA spliced and translated into the protein encoded by the coding sequence.” Thus, “a promoter” comprises a species within the genus of ‘transcriptional and translational control sequences’ as disclosed in Applicant’s specification. Thus, a coding sequence that is “operatively linked to ‘a promoter’” clearly falls within the scope of the meaning of a coding sequence that is “under the control” of a ‘transcriptional control sequence’. Further, the term “operatively linked to a promoter” is an art-recognized phrase, the meaning of which is well within the purview of a person of skill in the art. Even assuming arguendo that this phrase is not art-recognized, it is well established that Applicant is allowed and entitled to be his own lexicographer. In this regard, the meanings ascribed to both phrases “ ‘under the control’ of transcriptional and translational control sequences” and “promoters” render the meaning of the claim as amended, in view of Applicant’s teachings and knowledge in the art, readily apparent to the skilled artisan.

The Examiner again asserts that “the concept of an OB protein comprising ‘amino acids 22-167 of SEQ ID NO:4 wherein one or more amino acids selected from the group consisting of amino acids 53...166 is substituted with another amino acid’ ” in claims 134, 142, 148, and 158 is new matter. For the reasons presented in previous responses, as well as the reasons below, this rejection remains traversed.

Analysis

An objective standard for determining compliance with the written description requirement is, "does the description clearly allow persons of skill in the art to recognize that he or she invented what is claimed." *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ.2d 1614, 1618 (Fed. Cir.1989). The Examiner has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims. *In re Wertheim*, 541 F.2d 257, 265, 191 USPQ 90, 98 (CCPA 1976); *See also, Ex parte Sorenson*, 3 USPQ.2d 1462, 1463 (Bd. Pat.App. & Inter. 1987).

As outlined in the Revised Interim Guidelines for Examination of Patent Applications Under 35 U.S.C. § 112 paragraph 1, "Written Description" Requirement (Docket No. 991027288-0264-02; OG date January 30, 2001), the inquiry for compliance with the written description requirement where claims are directed to a genus is performed by: 1) assessing the degree of variation among species within the genus, and 2) making a determination as to whether a representative number of examples are either explicitly or implicitly described in the application, as determined by assessing whether the skilled artisan would recognize that applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the disclosed species.

To this end, as outlined in the Guidelines:

the written description requirement for a claimed genus may be satisfied through sufficient description of a representative number of species by actual reduction to practice, reduction to drawings or by disclosure of relevant, identifying characteristics, i.e., structure or other physical and/or chemical properties, by functional characteristics coupled with a known or disclosed correlation between structure and function and structure, or by a combination of such identifying characteristics, sufficient to show the applicant was in possession of the claimed genus.

Further,

a satisfactory 'representative number' depends on whether one of skill in the art would recognize that the applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the species disclosed.

The instant specification, discloses, for example, that: (1) interspecies OB polypeptides

homology is high, and as much as greater than 80% homologous (see, e.g., page 5, line 25, through page 6, line 2); (2) the primary sequences of mouse and human OB polypeptides identified *in vivo* and disclosed in full by Applicants (SEQ ID NOS: 2 and 4 respectively) share 83% amino acid sequence homology; also see e.g., Figure 4 and page 12, lines 15-23, as amended herein); (3) both mouse and human OB polypeptides (SEQ ID NOS: 2 and 4, respectively) are capable of modulating body weight when administered to ob/ob mice and wild-type mice (e.g., page 5, lines 6-14 and in the Examples, throughout); (4) OB-encoding polynucleotides of essentially the same size as the disclosed mouse OB polynucleotide sequence were isolated and identified based on high homology to an entire exon (SEQ ID NO:7) of the mouse OB-encoding sequence (see, e.g. Figure 16 and page 95, lines 9-21); (5) mouse and human OB polypeptide polymorphic forms exist *in vivo*, characterized by deletion of glutamine at position 49 (see, e.g., Figures 5 and 6, page 12, line 24 through page 13, line 8, and SEQ ID NOS: 5 and 6); (6) numerous exemplified amino acid positions that are not essential for activity may be substituted by numerous exemplified amino acids, based on the sequence alignments between mouse and human OB proteins, as well as on disclosed structural information (see, e.g., page 32, line 6, through page 35, line 23); and (7) each identified mouse and human polypeptide demonstrated to be cleaved to remove an N-terminal 21-amino acid signal sequence (see, e.g. pages 12 and 13, and Figures 3, 4, 5 and 6), assays for weight modulatory and food intake inhibition activity of OB polypeptides, and exemplary results obtained therefrom (see, e.g., Example 8 (pages 112-130), and Figures 28A-28D). Therefore, Applicant has described multiple OB polypeptides possessing weight modulatory capability as a common functional feature, and possessing from zero (0) percent to 17% amino acid sequence variability, respectively (i.e., possess 100% and as little as 83% amino acid sequence identity relative to one another) as a common structural feature.

Accordingly, the inquiry with respect to item 1) above reveals that there is little substantial degree of variation between species within the claimed genus: the OB polypeptide amino acid sequences as recited in the claimed methods are capable of modulating body weight, and are described in the instant specification (SEQ ID NOS:2, 4, 5, or 6). Thus, contrary to the Examiner's assertion that "the specification is limited to specific amino acid difference (sic) at the positions claimed (except 56 and 95), and does not suggest substituting amino acids at the

positions claimed with any amino acid as broadly claimed,” is new matter, the degree of variation within the claimed genus is fully exemplified and described in the instant application as filed.

The assessment with respect to item 2) of the inquiry similarly reveals that the instant application describes a representative number of examples, either explicitly or implicitly, such that the skilled artisan would recognize that Applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the disclosed species. In this regard, and as explained in previous responses as well as in the analysis above, the instant application provides an amino acid sequence alignment of mouse and human OB polypeptides, and indicates 28 positions at which differences between the sequences are observed, which translates to 83% sequence identity between the two sequences (see, e.g. Figure 4). Figure 4 thus inherently discloses, as the skilled artisan would recognize, OB polypeptides that differ from either the mouse or human sequence depicted in Figure 4 by one, two, three, four, five, six, seven, eight, nine, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, or 28 amino acids, corresponding to OB polypeptide sequences possessing 99.4%, 98.8%, 98.2%, 97.6%, 97.0%, 96.4%, 95.8%, 95.2%, 94.6%, 94.0%, 93.4%, 92.8%, 92.2%, 91.6%, 91.0%, 90.4%, 89.8%, 89.2%, 88.6%, 88.0%, 87.4%, 86.8%, 86.2%, 85.6%, 85.0%, 84.4%, 83.8%, or 83.0%, respectively. Thus, there can be no doubt that a representative number of species encompassed by the claimed genus are described, either explicitly or inherently, such that the skilled artisan would recognize that Applicant was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the disclosed species. The Examiner, in his latest recapitulation of the rejection, does not rebut the above comments, which were provided in Applicant’s previous response. Accordingly, the rejection remains erroneous and should be withdrawn.

The Examiner’s next rejection, which is directed to “the concept of an OB protein comprising ‘amino acids 22-167 of SEQ ID NO:4 wherein one or more amino acids selected from the group consisting of amino acids 53... 166 is substituted with another amino acid’ in claims 134, 142, 148, and 158” alleges that such recitation remains new matter”, insofar as the specification allegedly “does not suggest substituting the amino acids at the positions claimed with any amino acid as broadly claimed.”

The rejection remains traversed: the analysis described above, which the Examiner has

failed to address, demonstrated written description support for the instant claims. The Examiner's comments with regard to Figure 4 are unavailing in this regard, as the Figure, as well as disclosure throughout the specification concerning substitution that may be made in the recite ob polypeptides, provide ample basis for the recitations (see, e.g., page 34, line 6, through page 35, line 23). The rejection remains without merit and should be withdrawn.

The Examiner's next repeats the rejection directed to "the concept of an OB protein comprising 'amino acids 22-166 of SEQ ID NO:6 wherein one or more amino acids selected from the group consisting of amino acids 52, 55, 70, 84, 88, 91, 94, 97, 109, 117, 120, 121, 125, 126, 127, 128, 131, 138, 156, 158, 162 and 165 is substituted with another amino acid' ", as recited in claims 135, 143, 149, and 159, alleging again that this recitation constitutes new matter insofar as the specification allegedly "does not suggest substituting the amino acids in the Gln deleted mutants in Fig. 5 and 6, specifically with any amino acid as broadly claimed."

The rejection remains traversed: the analysis described above yields the same result with respect to the claimed genus Gln deleted OB proteins. It is readily apparent that simply subtracting "1" from each amino acid position number as recited in claims 134, 142, 148, and 158 that comes after position 49, which corresponds to the Gln that is disclosed to be deleted in the ob polypeptides depicted in each of Figs. 5 and 6, yields the recited positions for substitution which correspond to the position recited in claims 134, 142, 148, and 158. The Examiner's continued position that this disclosure does not exist is simply untenable, without merit, and traversed.

The Examiner again reiterates portions of the rejection of claims 166-173, allegedly that they constitute new matter insofar as the support argued by Applicants in previous responses is not found in the specification. The remaining portion of the rejections remains traversed: support for rejected substitutions is found in the portions of the specification to which the Examiner was directed in previous responses (i.e., pages 32 through 35 – see page 27, lines 20-24 of response filed June 29, 2006). Specifically, support for claim 166(g) regarding positions 118-166 is found in Figure 4 in conjunction with the disclosure at page 35, lines 11-12, which states provides an embodiment corresponding to the helix forming potential of the disulfide loop structure corresponding to amino acids 117 to 167, the disclosure at page 34, lines 14-19, which states that for "disulfide bonded loop analogs the cysteine residues must be maintained", and

page 113, lines 16-19, which demonstrates that mature ob polypeptide, in which in the only residues that are cysteine residues are at positions 117 and 167 as depicted in Figure 4, participate in a disulfide bond. Therefore, amino acid positions 118 through 166 are available for substitution within the recited analog, in accordance with the teachings of the instant application. As such the rejected recitation does not constitute new matter.

Despite being repeatedly directed to relevant portions of the disclosure, including specific Figures, and page and line number, the Examiner has maintained his new matter rejections for claim numbers 167-173 on the basis that he cannot find the relevant recitations. Again, the Examiner is directed to specific regions of the specification, level of specific Figure, and page and line number, with respect to: subparts (a); (b); (c); (d); (e); (f); and (g) of claim 166, the Examiner is again directed to, respectively: page 134, line 27, through page 35, line 2; page 35, line 2; page 35, lines 3-4; page 35, line 4; page 35, line 5; page 33, lines 7-8; and page 34, lines 5-11. With respect to: subparts (a); (b); and (c) of claim 170, the Examiner is again directed to, respectively: page 32, line 21-page 33, line 2, in conjunction with page 33, lines 11-14, which describes analogs as recited in the each of subparts (a); (b); and (c) of claim 170. With respect to: subparts (a); (b); (c); (d); (e); (f); and (g) of claim 171, the Examiner is again directed to inspect the disclosure found in the specification as outlined above for claim 166 in conjunction with that outlined above for 170. With respect to: subparts (a); (b); (c); (d); (e); (f); (g); and (h) of claim 173, the Examiner is again directed to inspect the disclosure at page 54, line 24, through page 55, line 19, Figures 22A-22C and 22A-22B, and the amino acid sequences provided in the recited SEQ ID NOS, which collectively discloses the amino acid sequence of the recited tags/sequences (e.g., HIS-tags, remnants of KEX-2 or thrombin cleavage of exogenous, vector-derived (e.g., "non-OB") sequences), and discloses that they may be fused to the N-terminus of an OB protein as recited in the claims. With respect to the subparts, (a) through (h)(8), of each of claims 169 and 172, the Examiner is again directed to inspect the portions of the specification outlined in the portions of the specification outlined for each of claims 166, 167, 168, 170, 171, and 173. Accordingly, the Rejection of claims 166, 167, 168, 169, 170, 171, 172, and 173 is in error and should be withdrawn. Each and every rejected claim recitations is supported in the indicated Figure and/or page-and-line citations as the Examiner (along with his supervisor, if necessary) will appreciate upon careful, competent (re)review of such citations.

The Examiner again rejects claims 124, 132-137, 139-143, 145-149, 155-159, and 163-173 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement because the specification allegedly “does not provide written description for the ‘therapeutically effective amount’ of a vector administered to a mammal ‘such that the mammal exhibits a decrease in body weight’”. Reminiscent of the Examiner’s repeated theme concerning tissue and/or cell type targeting as it allegedly relates to the instant claims, the Examiner continues to turn to page 83, line 4, to assert that the disclosure (and therefore the claims) are limited in scope by way of targeting human fat cells, in order to support the rejection. For the reasons already on record by way of previous response(s), this rejection remains traversed. The specification does not expressly or implicitly disclose that targeting of fat cells is the only administration modality by which the instantly claimed methods may be practiced; the cited portion states the “the ob gene could be introduced into human fat cells to develop gene therapy for obesity.” This statement does not negate any other targeting modality, including, to specific targeting of any tissue or cell type at all, as described above, in order to practice the claimed methods. Furthermore, it is well established that an Applicant’s claims to a disclosed invention is not bound by any suggested theory or mechanism for the inventions operation, even if such suggested theory is ultimately found to be incorrect.

Furthermore, contrary to the Examiner’s continued assertion, the instant specification provides ample description of determination of a therapeutically effective amount, of example at page 72, lines 5-9 and page 72, line 25, through 73, line 5, which discloses that a therapeutically effective amount comprises an amount sufficient to reduce a clinically significant deficit in the recited activity function, or response of the host by at least about 15 percent, at least 50 percent, by at least 90 percent, or to prevent such a deficit. A therapeutically effective amount is disclosed to alternatively comprise an amount sufficient to cause an improvement in a clinically significant condition in the host by, for example, these benchmark values. The instant application also discloses that treatment of, for example, abnormal elevation of body weight is a clinically significant condition for which a therapeutically effective amount of the recited OB-encoding vectors may be administered in the claimed methods in order to achieve a decrease in body weight (see, e.g., page 11, lines 5-8). Therefore the recitation of a “therapeutically effective amount” enjoys satisfactory written description support in the application as filed. Accordingly,

for the reasons provided in previous responses as well as those provided herein, the rejection remains traversed.

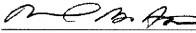
The remainder of the Office Action simply repeats the rejections already outlined, responded to, and traversed as described above, and is therefore Applicant considers the Action to have been fully responded to. Accordingly, Applicants believe that all issues raised in the Office Action have been properly addressed in this response and in the amendments to the claims as shown in the attached Listing of Claims. Accordingly, reconsideration and allowance of the instant claims is respectfully requested. If the Examiner feels that a telephone interview would serve to facilitate resolution of any outstanding issues, the Examiner is encouraged to contact Applicants' representative at the telephone number below.

CONCLUSION

No additional fees are believed due for this submission. However, if a fee is due, the Commissioner is hereby authorized to charge payment of any fees associated with this communication, to Deposit Account 19-4293 referencing Docket No. 16454.0005. Additionally, the Commissioner is hereby authorized to charge payment or credit overpayment of any fees during the pendency of this application to Deposit Account 19-4293.

Respectfully submitted,

Date: 10-31-07
Customer Number: 27890
STEPTOE & JOHNSON LLP
1330 Connecticut Ave., NW
Washington, DC 20036
Tel: 202-429-3000
Fax: 202-429-3902


Harold H. Fox
Reg. No. 41,498